CLAIMS:

1. A method of preparing a polymeric material, comprising:

filtering a first solution comprising poly(arylene ether), poly(alkenyl aromatic), and a solvent through a first filtration system to form a first filtrate;

concentrating the first filtrate to form a second solution having a percent weight solids level greater than that of the first filtrate;

filtering the second solution through a second filtration system to create a second filtrate; and

isolating from the second filtrate a polymeric material comprising poly(arylene ether) and poly(alkenyl aromatic).

2. The method of claim 1, wherein the polymeric material is substantially free of visible particulate impurities.

3. The method of claim 1, wherein the polymeric material is substantially free of particulate impurities having a diameter of about 15 micrometers or greater.

4. The method of claim 1, wherein the first filtration system and the second filtration system independently comprise a filter having a pore size of about 0.01 to about 50 micrometers.

5. The method of claim 1, wherein the first filtration system and the second filtration system independently comprise a sintered-metal filter, a cloth filter, a fiber filter, a paper filter, a pulp filter, a metal mesh filter, a ceramic filter, or a combination of the foregoing filters.

6. The method of claim 1, wherein the first filtration system and the second filtration system independently comprise a filter having a geometry that is cone, pleated, candle, stack, flat, wraparound, or a combination comprising at least one of the foregoing geometries.

7. The method of claim 1, wherein the first filtration system and the second filtration system independently comprise a filter having a pore size of about 0.01 to about 50 micrometers.

8. The method of claim 1, wherein the first filtration system and the second filtration system independently comprise a sintered metal filter having a pore size of about 1 to about 15 micrometers.

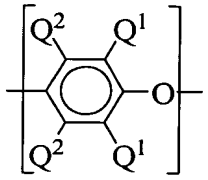
9. The method of claim 1, wherein the solvent is a halogenated aromatic solvent, a halogenated aliphatic solvent, a non-halogenated aromatic solvent, a non-halogenated aliphatic solvent, or a combination comprising at least one of the foregoing solvents.

10. The method of claim 1, wherein isolating the polymeric material comprises precipitating the polymeric material from the second filtrate or removing solvent from the second filtrate.

11. The method of claim 1, wherein isolating the polymeric material comprises removing solvent using a devolatilization extruder, a flash vessel, a distillation system, or a combination comprising at least one of the foregoing.

12. The method of claim 1, wherein the polymeric material is isolated in the form of a pellet, powder, or flake.

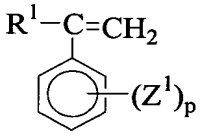
13. The method of claim 1, wherein the poly(arylene ether) comprises a plurality of structural units of the structure



wherein for each structural unit, each Q^1 is independently primary or secondary C_1-C_7 alkyl, phenyl, haloalkyl, aminoalkyl, hydrocarbonoxy, or halohydrocarbonoxy wherein at least two carbon atoms separate the halogen and oxygen atoms; and each Q^2 is independently hydrogen, halogen, primary or secondary lower alkyl, phenyl, haloalkyl, hydrocarbonoxy, or halohydrocarbonoxy wherein at least two carbon atoms separate the halogen and oxygen atoms.

14. The method of claim 1, wherein the poly(arylene ether) has an intrinsic viscosity of about 0.10 to about 0.60 deciliters per gram as measured in chloroform at 25°C.

15. The method of claim 1, wherein the poly(alkenyl aromatic) contains at least 25% by weight of structural units derived from an alkenyl aromatic monomer of the formula



wherein R^1 is hydrogen, C_1-C_8 alkyl, or halogen; Z^1 is vinyl, halogen or C_1-C_8 alkyl; and p is 0 to 5.

16. The method of 1, wherein the poly(alkenyl aromatic) is atactic crystal polystyrene.

17. The method of claim 1, wherein the polymeric material comprises about 90 to about 10 percent by weight of the poly(arylene ether) and about 10 to about 90 percent by weight of the poly(alkenyl aromatic).

18. The method of claim 1, wherein the polymeric material comprises about 60 to about 30 percent by weight of the poly(arylene ether) and about 40 to about 70 percent by weight of the poly(alkenyl aromatic).

19. The method of claim 1, wherein the polymeric material further comprises flame retardants, mold release agents, lubricants, antioxidants, thermal stabilizers, ultraviolet stabilizers, pigments, dyes, colorants, anti-static agents, conductive agents, or a combination comprising at least one of the foregoing additives.

20. A method of preparing a polymeric material, comprising:

filtering a first solution through a first filtration system to form a first filtrate, wherein the first solution comprises a solvent, about 60 to about 30 percent by weight of poly(phenylene ether) and about 40 to about 70 percent by weight of polystyrene based on the total weight of poly(phenylene ether) and polystyrene;

concentrating the first filtrate to form a second solution having a percent weight solids level greater than that of the first filtrate;

filtering the second solution through a second filtration system to create a second filtrate; and

isolating from the second filtrate a polymeric material comprising poly(arylene ether) and poly(alkenyl aromatic), wherein the polymeric material is substantially free of visible particulate impurities.

21. A method of preparing a polymeric material, comprising:

filtering a first solution comprising poly(arylene ether) and a solvent through a first filtration system to form a first filtrate;

combining the first filtrate and a poly(alkenyl aromatic) to form a second solution;

filtering the second solution through a second filtration system to create a second filtrate; and

isolating from the second filtrate a polymeric material comprising poly(arylene ether) and poly(alkenyl aromatic).

22. The method of claim 21, wherein the polymeric material is substantially free of visible particulate impurities.

23. The method of claim 21, wherein the polymeric material is substantially free of particulate impurities having a diameter of about 15 micrometers or greater.

24. The method of claim 21, wherein the first filtration system and the second filtration system independently comprise a sintered-metal filter, a cloth filter, a fiber filter, a paper filter, a pulp filter, a metal mesh filter, a ceramic filter, or a combination comprising at least one of the foregoing filters.

25. The method of claim 21, wherein the first filtration system and the second filtration system independently comprise a filter having a geometry that is cone, pleated, candle, stack, flat, wraparound, or a combination comprising at least one of the foregoing geometries.

26. The method of claim 21, wherein the first filtration system and the second filtration system independently comprise a filter having a pore size of about 0.01 to about 50 micrometers.

27. The method of claim 21, wherein the solvent is a halogenated aromatic solvent, a halogenated aliphatic solvent, a non-halogenated aromatic solvent, a non-halogenated aliphatic solvent, or a combination thereof.

28. The method of claim 21, wherein the solvent is ortho-dichlorobenzene or toluene.

29. The method of claim 21, wherein the poly(alkenyl aromatic) is dissolved in a solvent prior to combining with the first filtrate.

30. The method of claim 21, further comprising concentrating the first filtrate to a percent solids level of greater than or equal to about 20 percent by weight solids based on the total of solvent and poly(arylene ether).

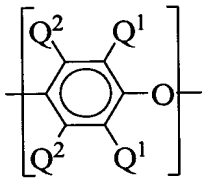
31. The method of claim 21, further comprising concentrating the second filtrate to a percent weight solids level of greater than about 40 percent by weight solids based on the total of solvent, poly(arylene ether), and poly(alkenyl aromatic).

32. The method of claim 21, wherein isolating the polymeric material comprises precipitating the polymeric material from the second filtrate or removing solvent from the second filtrate.

33. The method of claim 21, wherein isolating the polymeric material comprises removing solvent using a devolatilization extruder, a flash vessel, a distillation system, or a combination comprising at least one of the foregoing.

34. The method of claim 21, wherein the polymeric material is isolated in the form of a pellet, powder, or flake.

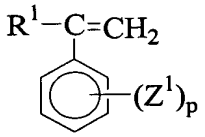
35. The method of claim 21, wherein the poly(arylene ether) comprises a plurality of structural units of the structure



wherein for each structural unit, each Q^1 is independently halogen, primary or secondary C_1-C_7 alkyl, phenyl, haloalkyl, aminoalkyl, hydrocarbonoxy, or halohydrocarbonoxy wherein at least two carbon atoms separate the halogen and oxygen atoms; and each Q^2 is independently hydrogen, halogen, primary or secondary lower alkyl, phenyl, haloalkyl, hydrocarbonoxy, or halohydrocarbonoxy wherein at least two carbon atoms separate the halogen and oxygen atoms.

36. The method of claim 21, wherein the poly(arylene ether) has an intrinsic viscosity of about 0.10 to about 0.60 deciliters per gram as measured in chloroform at 25°C.

37. The method of claim 21, wherein the poly(alkenyl aromatic) contains at least 25% by weight of structural units derived from an alkenyl aromatic monomer of the formula



wherein R^1 is hydrogen, C_1-C_8 alkyl, or halogen; Z^1 is vinyl, halogen or C_1-C_8 alkyl; and p is 0 to 5.

38. The method of 21, wherein the poly(alkenyl aromatic) is atactic crystal polystyrene.

39. The method of claim 21, wherein the polymeric material comprises about 90 to about 10 percent by weight of the poly(arylene ether) and about 10 to about 90 percent by weight of the poly(alkenyl aromatic).

40. The method of claim 21, wherein the polymeric material comprises about 60 to about 30 percent by weight of the poly(arylene ether) and about 40 to about 70 percent by weight of the poly(alkenyl aromatic).

41. The method of claim 21, wherein the polymeric material further comprises flame retardants, mold release agents, lubricants, antioxidants, thermal stabilizers, ultraviolet stabilizers, pigments, dyes, colorants, anti-static agents, conductive agents, or a combination comprising at least one of the foregoing additives.

42. A method of preparing a polymeric material, comprising:

filtering a superheated solution comprising poly(arylene ether), poly(alkenyl aromatic), and a solvent in a solution filtration system to form a filtrate; and

isolating a polymeric material from the filtrate, wherein the polymeric material comprises poly(arylene ether) and poly(alkenyl aromatic).

43. The method of claim 42, wherein the polymeric material is substantially free of visible particulate impurities.

44. The method of claim 42, wherein the superheated solution is at a temperature greater than the boiling point of the solvent at atmospheric pressure.

45. The method of claim 42, wherein isolating the polymeric material comprises removing solvent using a devolatilization extruder, a flash vessel, a distillation system, or a combination comprising at least one of the foregoing.

46. An article comprising the polymeric material prepared by the method of claim 1, wherein the article is formed by injection molding, blow molding, extrusion, sheet extrusion, film extrusion, profile extrusion, pultrusion, compression molding, thermoforming, pressure forming, hydroforming, or vacuum forming.

47. An article comprising the polymeric material prepared by the method of claim 1.

48. An article comprising the polymeric material prepared by the method of claim 21, wherein the article is formed by injection molding, blow molding, extrusion, sheet extrusion, film extrusion, profile extrusion, pultrusion, compression molding, thermoforming, pressure forming, hydroforming, or vacuum forming.

49. A data storage medium comprising the polymeric material prepared by the method of claim 21.